ABSTRACT

The present invention relates generally to novel genetic sequences that encode fatty acid epoxygenase enzymes, in particular fatty acid Δ12-epoxygenase enzymes from plants that are mixed function monooxygenase enzymes. More particularly, the present invention exemplifies cDNA sequences from *Crepis spp.* and *Vernonia galamensis* that encode fatty acid Δ12-epoxygenases. The genetic sequences of the present invention provide the means by which fatty acid metabolism may be altered or manipulated in organisms, such as, for example, yeasts, moulds, bacteria, insects, birds, mammals and plants, and more particularly in plants. The invention also extends to genetically modified oil-accumulating organisms transformed with the subject genetic sequences and to the oils derived therefrom. The oils thus produced provide the means for the cost-effective raw materials for use in the efficient production of coatings, resins, glues, plastics, surfactants and lubricants.